

CHARGE NUMBER: 1101
PROGRAM TITLE: ENTOMOLOGICAL RESEARCH
PERIOD COVERED: SEPTEMBER 1 - 30, 1985
PROJECT LEADER: D. L. FAUSTINI
DATE OF REPORT: OCTOBER 4, 1985

I. CIGARETTE BEETLE PHYSIOLOGICAL STUDIES

A. Field

Testing has continued in the warehouse evaluating several candidate synthetic pyrethroid space sprays. One particular spray has been effective in killing CB that were contained in cages at 4, 8 and 16 feet. R&D anticipates in making a recommendation for its use by Dec. 1985 (1).

Pheromone traps are still being evaluated as potential monitors of the CB in tobacco warehouses. Since the study was initiated, in June 1985, the pheromone traps have outperformed the suction traps. Results indicate that the beetle population in large warehouses (1.5 mil cu ft) is quite sparse (2).

B. Laboratory

Cigarette packages exposed to low numbers of adult CB have been evaluated for damage. Infestation levels appear to be slightly lower with the lower exposure level with one exception, that being the non-filter cigarettes. This confirms one of our earlier observations that immediate exposure to a food source in the non-filter package results in greater CB survival and higher infestation (3).

Samples of Mexican tobacco treated with Kabat® were secured, ground and submitted to Universal Leaf for chemical analysis. These samples represent 1/3 of the total amount of tobacco treated with methoprene. If the results are favorable the test will be concluded (4). Ms. Drew has acquired small nail kegs which will be used to simulate "mini-hogsheads" for the evaluation of methoprene treated liners. Candidate liners will include: burlap, paper, and polyethylene materials (5).

Four tobacco molds were evaluated for attraction by the CB in a dual-choice bioassay chamber. The mold Aspergillus niger showed significant attractant properties ($P < 0.001$) to adult CB (6).

Several adhesives were evaluated as candidates to trap CB in a R&D designed pheromone trap. Double faced adhesives ranged from vinyl to acrylic to paper. These adhesives will be evaluated for stability at various temperatures, peelability, and trapping efficiency (7).

2001116415

II. ASSISTANCE TO OTHERS

One hundred percent CB mortality was achieved at the 20th St. and Dock St. conditioners used for phytosanitary certification of export blended tobacco (8).

III. REFERENCES

1. Faustini, D. L. Notebook No. 7746, pp. 124-127.
2. Minor, M. F. Notebook No. 7197, pp. 169-181.
3. Lehman, R. M. Notebook No. 8028, pp. 84,89.
4. Lehman, R. M. Notebook No. 8028, pp. 85-86, 88.
5. Lehman, R. M. Notebook No. 8028, p. 87.
6. Minor, M. F. Notebook No. 7197, pp. 166-167.
7. Drew, S. Notebook No. 7850, p. 202.
8. Deubler, R. C. Memo to D. T. Wagner. Documentation of Beetle Kill. Sept. 30, 1985.

Daryl J. Faustini

2001116416